2 Sheets—Sheet 1.

E. G. WHITING.

PLOW.

No. 183,612. Patented Oct. 24, 1876.

FIG. 1.

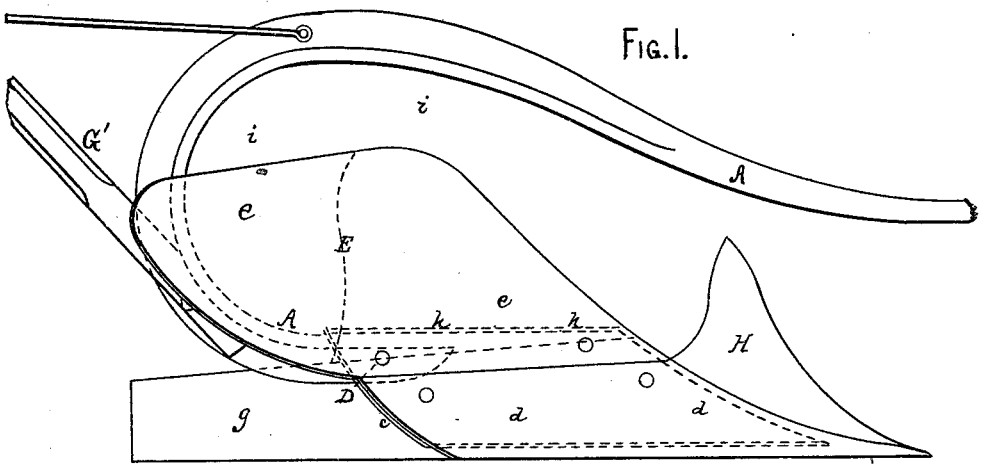


FIG. 2.

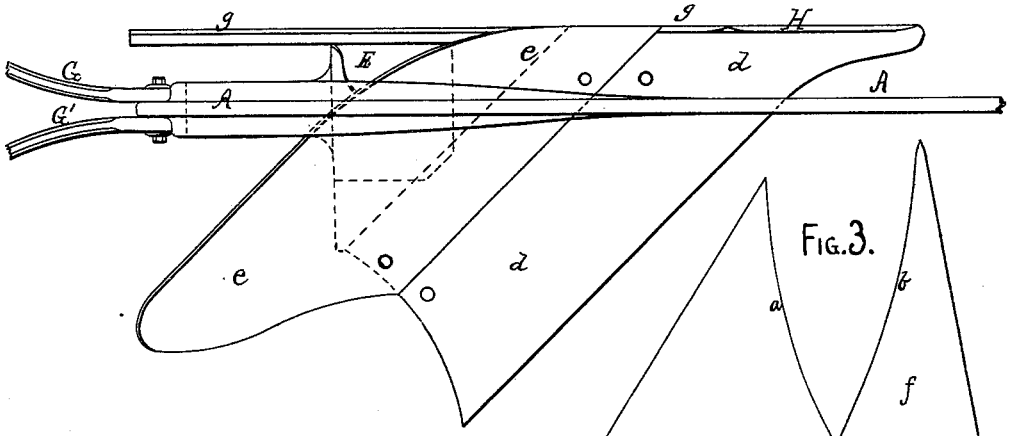


FIG. 3.

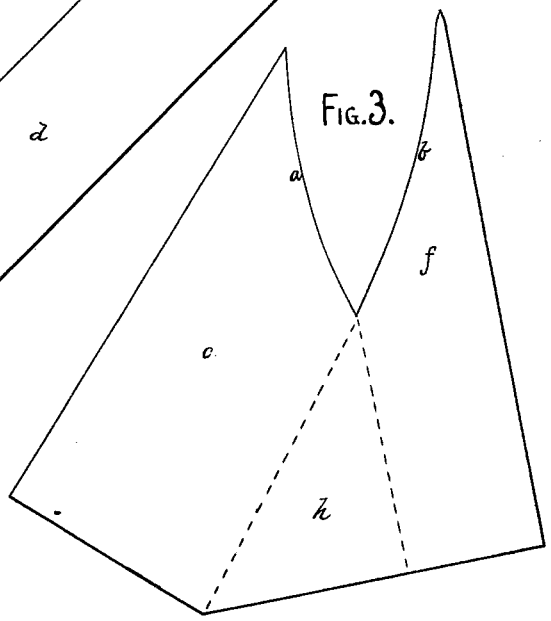
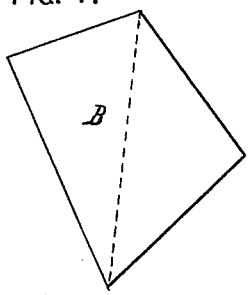


FIG. 4.



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John T. Halsted. } WITNESSES.

Ebenezer G. Whiting INVENTOR,
By Louis Fesser & Co.
Attys.

2 Sheets—Sheet 2.

E. G. WHITING.

PLOW.

No. 183,612. Patented Oct. 24, 1876.

FIG. 5.

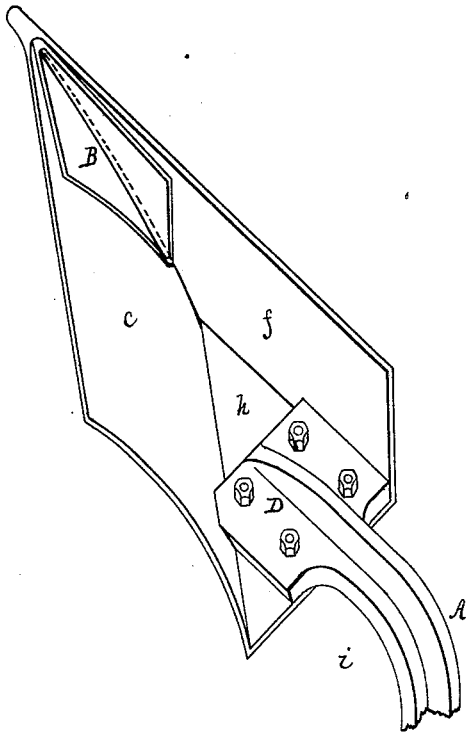


FIG. 6

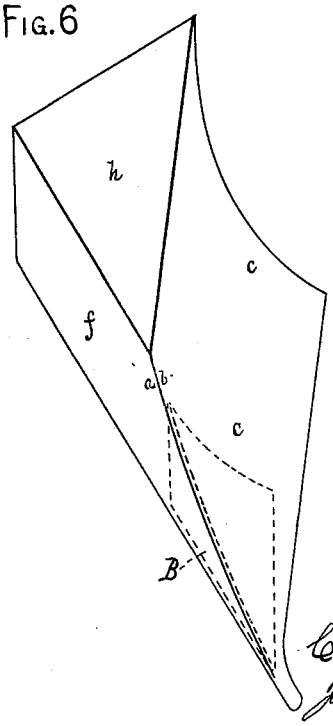


FIG. 7

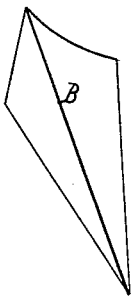
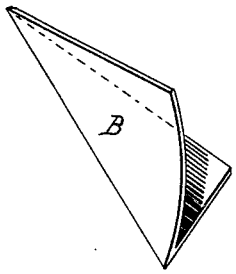


FIG. 8



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BY Louis Fesser & Co
Attys.

C. N. Woodward.
John T. Halsted } WITNESSES.

UNITED STATES PATENT OFFICE.

EBENEZER G. WHITING, OF NORTHFIELD, MINNESOTA.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **183,612**, dated October 24, 1876; application filed July 1, 1876.

To all whom it may concern:

Be it known that I, EBENEZER GLADDEN WHITING, of Northfield, in the county of Rice and State of Minnesota, have invented certain new and useful Improvements in Plows, of which the following is a specification:

This invention relates to plows; and consists in making the frame for supporting the share, mold-board, land-side, &c., of one single piece of sheet steel, cut in a peculiar shape, and bent and welded into the proper form in suitable swages, &c., as hereinafter set forth; also in certain other improvements that will be hereinafter set forth.

In the drawings, Figure 1 is a side elevation, and Fig. 2 is a plan view, of a plow with my improvements attached thereto. Figs. 3 and 4 are views of the shape in which the sheet steel will be cut to form the frame, &c. Fig. 5 is a perspective view of the frame inverted, showing the manner of securing the beam thereto. Figs. 6, 7, and 8 are perspective views of the two parts of the frame.

In my improved frame I use one single piece of sheet steel, cut in the shape shown in Fig. 3, which is then bent in a suitable machine or swage along the dotted lines, to bring the two edges *a b* together, when they will be welded and drawn out sharp, which will cause the frame to assume the form shown in Figs. 5 and 6. By this means the complete frame is formed, *c* being the base for the share *d* and mold-board *e*; *f*, the base for the land-side *g*; and *h*, the flat top, to which the beam A will be attached.

By this simple device I form the complete frame of one single piece of sheet steel, and with only one weld, and, consequently, it can be made much lighter and cheaper than by the old method. To strengthen it, however, I propose to weld into the nose or forward end of the frame an auxiliary piece, B, Figs. 7 and 8, which serves to stiffen it at that point where the greatest strain will occur. By this arrangement the frame will be very strong, even with a very light quality of steel, and will also be in consequence much lighter than the old style.

This combined lightness and strength is a very great advantage, as it enables a very light plow to be used in very heavy land, and will, in many cases, dispense with the necessity of an extra heavy plow for heavy soils. It will also be much more convenient to handle and move about, while its great simplicity will enable me to manufacture it at a great saving in cost and time.

As before mentioned, the flat surface *h*, forming the top of the frame, serves as a base, to which the beam A is secured. The back end of the beam is curved in a semicircular form, as shown, and is bolted to the bottom side of the top *h* of the frame, as shown. By this means the frame is made to pass back of and above the mold-board *e*.

When the center of draft has been determined the enlarged portion D of the beam A where it is secured to the frame will be made to fit the side *f* of the frame, so that every beam will fit in exactly the same spot, and thus insure a uniformity in their arrangement, and enable the beams to be made interchangeable, and thus duplicates can be readily furnished.

E is a brace, made of sheet steel, and placed beneath the back of the mold-board, with one end secured thereto, while the other end is secured to the land-side frame *f*. (See Fig. 2.) This acts as a brace or support to the mold-board, while at the same time, by being made of sheet steel and completely filling the angular-shaped cavity formed by the mold-board and land-side, it also acts as a shield or guard to prevent any earth or other matter from getting into the hollow space beneath the mold-board. G G′ are the handles, which are secured directly to the beam, as shown.

The advantages I claim for this arrangement are, that it removes the strain from the frame, and thus enables me to use a much lighter one than would otherwise be the case. It also enables me to use shorter handles, thus making a saving of about two feet of length of handles. It also enables the plow to be handled with much greater ease, as the handles, being fastened well back, act as levers in turning the plow, or operating it.

In ordinary plows the colter is secured to the beam, and in some cast-iron plows it has been cast in one piece with the share. In the latter shape it possesses the advantage over the former of cutting the sod and lifting the

furrow at the same time. This insures an easy working of the plow.

I weld the colter H fast to the steel share, and in the same form as in the cast-iron ones; but, being of steel, it can be made as thin as is necessary to work nicely in the soil. I thus preserve all the advantages of the position of the cast-iron colter, with the lightness and strength of the ordinary suspended colter.

What I claim as new, and desire to secure by Letters Patent, is—

1. The plow-frame *c f h* made of one piece of metal, cut in the shape described and shown, and bent by suitable means into a support or seat for the mold-board, share, land-side, and beam of the plow, substantially as shown and described, and for the purposes set forth.

2. The auxiliary piece B, in combination with the frame *e f h*, and welded or otherwise secured thereto, as hereinbefore described.

3. The combination and arrangement of the curved beam A, frame *c f h*, and handles G G′, as hereinbefore set forth.

4. The curved shield and brace E, in combination with the mold-board *e* and land-side frame *f*, as and for the purpose hereinbefore explained.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

E. G. WHITING.

Witnesses:

C. N. WOODWARD,

JOHN T. HALSTED.